

Exercise 1 Combine the polynomials and simplify.

$$f(x) = \frac{2}{3}x(x+4)(x+1)(\sqrt{2}x-1)^2$$

$$f(x) = \boxed{0}x^6 + \boxed{\frac{4}{3}}x^5 + \boxed{\frac{20-4\sqrt{2}}{3}}x^4 + \boxed{\frac{18-20\sqrt{2}}{3}}x^3 + \boxed{\frac{10-16\sqrt{2}}{3}}x^2 + \boxed{\frac{8}{3}}x + \boxed{0}$$
